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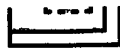
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Weight	lbs. ozs.	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
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Weight	lbs. ozs.	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
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Delivery Date	Time	Employee Signature
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No Delivery				Mo. Day	Time	<input type="checkbox"/> AM <input type="checkbox"/> PM	Employee Signature
<input type="checkbox"/> Weekend <input type="checkbox"/> Holiday				Mo. Day	Time	<input type="checkbox"/> AM <input type="checkbox"/> PM	Employee Signature
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: BORONAT et al.

Appln. No.: 09/987,025

Filed: 13 November 2001

For: Nucleic Acid Sequences to Proteins  
Involved in Isoprenoid Synthesis

Art Unit: 1638

Examiner: R. L. Kallis

Atty. Dockets: MONS:039USC1  
REN-01-020-CON

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OFFICE OF PETITIONS

TRANSMITTAL LETTER

Dear Sir:

Please find enclosed for the above-referenced application the following:

- 1) Petition for Two Month Extension of Time (1 page);
- 2) Amendment (5 pages);
- 3) Request for Continued Examination Transmittal;
- 4) Information Disclosure Statement;
- 5) PTO Form 1449 (13 pages) (references to follow under separate cover); and
- 6) Return Post Card.

Respectfully submitted,

*Lois K. Ruszala*

Lois K. Ruszala, Reg. No. 39,074

Thomas E. Omholt, Reg. No. 37,052

Renessen LLC  
Legal Dept - Intellectual Property  
3000 Lakeside Drive, Suite 300-South  
Bannockburn, IL 60015  
Phone Contact: 847-457-5000  
Fax: 847-457-5174

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*Sandra Paulov*  
Sandra Paulov / Lois Ruszala

Appl. No. 09/987,025  
Amdt. dated April 22, 2004  
Request for Continued Examination  
Atty. Ref. REN-01-020-CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: BORONAT et al.  
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OFFICE OF PETITIONS


PETITION FOR TWO MONTH EXTENSION OF TIME

Sir:

Pursuant to 37 CFR § 1.136(a), applicant respectfully petitions for a two month extension of time to file a Request for Continued Examination ("RCE") in response to the Final Office Action dated October 22, 2003. The new time for filing such RCE will be April 22, 2004, extended pursuant to 37 CFR §§1.136(a) and 1.17(a). (Applicants previously petitioned for a one month extension of time.)

Please charge Deposit Account No. 50-1100 for \$840.00 (Eight Hundred and Forty dollars) for the extension of time fee. If any other charges are incurred or credited, please charge Deposit Account shown above.

Respectfully submitted,



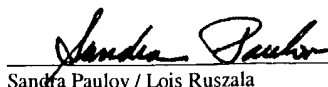
Lois K. Ruszala, Reg. No. 39,074

Thomas E. Omholt, Reg. No. 37,052

Renessen LLC  
Legal Dept - Intellectual Property  
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Bannockburn, IL 60015  
Phone: 847-457-5000  
Fax: 847-457-5174

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Sandra Paulov / Lois Ruszala

Appl. No. 09/987,025  
Amdt. dated April 22, 2004  
Request for Continued Examination  
Atty. Ref. REN-01-020-CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: BORONAT et al.

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Involved in Isoprenoid Synthesis

Art Unit: 1638

Examiner: R. L. Kallis

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REQUEST FOR CONTINUED EXAMINATION  
AMENDMENT

Sir:

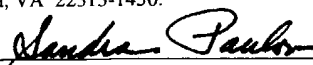
Applicants are in receipt of the Advisory Action mailed April 13, 2004, and present this Response accordingly. Please amend the above identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks** begin on page 5 of this paper.

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Sandra Paulov / Lois Ruzala

**Amendments to the Claims:**

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-20 (cancelled).

Claim 21 (previously presented) An isolated nucleic acid molecule comprising a nucleic acid sequence encoding 1-deoxy-D-xylulose 5-phosphate reductoisomerase, wherein said 1-deoxy-D-xylulose 5-phosphate reductoisomerase is found in *Arabidopsis*.

Claim 22 (previously presented) An isolated polynucleotide selected from the group consisting of:

- (a) an isolated polynucleotide comprising a nucleotide sequence encoding the polypeptide of SEQ ID NO: 2;
- (b) an isolated polynucleotide comprising SEQ ID NO: 1;
- (c) an isolated polynucleotide comprising a nucleotide sequence which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase and which has at least 95% identity to that of SEQ ID NO: 1 over the entire length of SEQ ID NO: 1;
- (d) an isolated polynucleotide that hybridizes under stringent conditions to SEQ ID NO: 1 over the entire length of SEQ ID NO: 1; said stringent conditions comprising overnight incubation at 42°C in a solution comprising 50% formamide, 5X SSC (150mM NaCl, 15mM trisodium citrate), 50mM sodium phosphate (pH 7.6), 5X Denhardt's solution, 10% dextran sulfate and 20 micrograms/milliliter denatured, sheared salmon sperm DNA, followed by washing the hybridization support in 0.1X SSC at approximately 65°C; and which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase; and
- (e) an isolated polynucleotide complementary to the polynucleotide sequence of (a), (b), (c), or (d).

Claim 23 (previously presented) A DNA construct comprising, as operably associated components in the 5' to 3' direction of transcription:

a promoter functional in a plant cell;

a polynucleotide selected from the group consisting of:

(a) a polynucleotide comprising a nucleotide sequence encoding the polypeptide of SEQ ID NO: 2;

(b) a polynucleotide comprising SEQ ID NO: 1;

(c) a polynucleotide comprising a nucleotide sequence which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase and which has at least 95% identity to that of SEQ ID NO: 1 over the entire length of SEQ ID NO: 1;

(d) an isolated polynucleotide that hybridizes under stringent conditions to SEQ ID NO: 1 over the entire length of SEQ ID NO: 1; said stringent conditions comprising overnight incubation at 42°C in a solution comprising 50% formamide, 5X SSC (150mM NaCl, 15mM trisodium citrate), 50mM sodium phosphate (pH 7.6), 5X Denhardt's solution, 10% dextran sulfate and 20 micrograms/milliliter denatured, sheared salmon sperm DNA, followed by washing the hybridization support in 0.1X SSC at approximately 65°C; and which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase; and

(e) a polynucleotide complementary to the polynucleotide sequence of (a), (b), (c), or (d); and,

a transcriptional termination sequence.

Claim 24 (previously presented) A host cell comprising the DNA construct of claim 23.

Claim 25 (previously presented) The host cell according to Claim 24, wherein the host cell is a plant cell.

Claim 26 (previously presented) A plant comprising a cell comprising a DNA construct comprising, as operably associated components in the 5' to 3' direction of transcription:

a promoter functional in a plant cell;

a polynucleotide selected from the group consisting of:

- (a) a polynucleotide comprising a nucleotide sequence encoding the polypeptide of SEQ ID NO: 2;
  - (b) a polynucleotide comprising SEQ ID NO: 1;
  - (c) a polynucleotide comprising a nucleotide sequence which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase and which has at least 95% identity to that of SEQ ID NO: 1 over the entire length of SEQ ID NO: 1;
  - (d) an isolated polynucleotide that hybridizes under stringent conditions to SEQ ID NO: 1 over the entire length of SEQ ID NO: 1; said stringent conditions comprising overnight incubation at 42°C in a solution comprising 50% formamide, 5X SSC (150mM NaCl, 15mM trisodium citrate), 50mM sodium phosphate (pH 7.6), 5X Denhardt's solution, 10% dextran sulfate and 20 micrograms/milliliter denatured, sheared salmon sperm DNA, followed by washing the hybridization support in 0.1X SSC at approximately 65°C; and which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase; and,
  - (e) a polynucleotide complementary to the polynucleotide sequence of (a), (b), (c), (d); and,
- a transcriptional termination sequence.

Claims 27-35 (cancelled).

Claim 36 (previously presented) An isolated polynucleotide according to Claim 22, wherein said polynucleotide comprises the nucleotide sequence of SEQ ID NO: 1.

Claim 37 (previously presented) An isolated polynucleotide according to Claim 22, wherein said polynucleotide comprises a nucleotide sequence encoding the polypeptide of SEQ ID NO: 2.

Claim 38 (previously presented) An isolated polynucleotide according to Claim 22, wherein said polynucleotide comprises a nucleotide sequence which encodes a 1-deoxy-D-xylulose 5-phosphate reductoisomerase and which has at least 95% identity to that of SEQ ID NO: 1 or its complement, over the entire length of SEQ ID NO: 1.



Claim 39 (previously presented) An isolated DNA comprising a nucleic acid which encodes an *Arabidopsis* 1-deoxy-D-xylulose-5-phosphate reductoisomerase that has the amino acid sequence of SEQ ID NO: 2.

**REMARKS**

Claims 27-35 are cancelled. Claims 21-26 and 36-39 were previously presented and are under consideration.

In the Advisory Action mailed April 13, 2004, claims 21-26 and 36-39 were found to be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claims. Applicants have cancelled claims 27-34, still not allowed.

Applicants respectfully submit that claims 21-26, and 36-39 are in condition for allowance.

If the Examiner believes that contacting the undersigned would facilitate concluding the prosecution of this application, he is invited to call at the number indicated below.

Respectfully submitted,



Lois K. Ruzala, Reg. No. 39,074  
Thomas E. Omholt, Reg. No. 37,052

Renessen LLC  
Legal Dept - Intellectual Property  
3000 Lakeside Drive - Suite 300-South  
Bannockburn, IL 60015  
Phone: 847-457-5000  
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Application Number	09/987,025
Filing Date	13 November 2001
First Named Inventor	BORONAT et al.
Art Unit	1638
Examiner Name	R. L. Kallis
Attorney Docket Number	MONS:039USC1

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**  
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

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2. **Miscellaneous**

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other \_\_\_\_\_

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The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Name (Print/Type)	Lois K. Ruzsala / Thomas E. Omholt	Registration No. (Attorney/Agent)	39,074 / 37,052
Signature	<i>Lois K. Ruzsala</i>	Date	22 April 2004

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Name (Print/Type)	Sandra Paulov / Lois Ruzsala
Signature	<i>Sandra Paulov</i>
Date	22 April 2004

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## Request for Continued Examination (RCE) Transmittal

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Application Number	09/987,025
Filing Date	13 November 2001
First Named Inventor	BORONAT et al.
Art Unit	1638
Examiner Name	R. L. Kallis
Attorney Docket Number	MONS:039USC1

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i. ☒ Amendment/Reply  
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b. ☐ Other \_\_\_\_\_

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i. ☒ RCE fee required under 37 CFR 1.17(e)  
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iii. ☐ Other \_\_\_\_\_

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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Lois K. Ruzala / Thomas E. Omholt	Registration No. (Attorney/Agent)	39,074 / 37,052
Signature	<i>Lois K. Ruzala</i>	Date	22 April 2004

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Name (Print/Type)	Sandra Paulov / Lois Ruzala	Date	22 April 2004
Signature	<i>Sandra Paulov</i>		

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	BORONAT et al.	Art Unit:	1638
Appln. No.:	09/987,025	Examiner:	R. L. Kallis
Filed:	13 November 2001	Atty. Dockets:	MONS:039USC1 REN-01-020-CON
For:	Nucleic Acid Sequences to Proteins Involved in Isoprenoid Synthesis		

**INFORMATION DISCLOSURE STATEMENT**  
**PURSUANT TO 37 C.F.R. §§ 1.97 AND 1.98**

Mail Stop Information Disclosure Statement  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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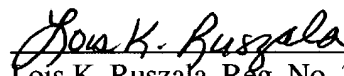
  
Sandra Paulov / Lois Ruzsala

Calgene LLC. The published applications are set forth in the "Related Patent Documents" section on the Form PTO-1449.

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Respectfully submitted,



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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: BORONAT et al.

Appln. No.: 09/987,025

Filed: 13 November 2001

For: Nucleic Acid Sequences to Proteins  
Involved in Isoprenoid Synthesis

Art Unit: 1638

Examiner: R. L. Kallis

Atty. Dockets: MONS:039USC1  
REN-01-020-CON

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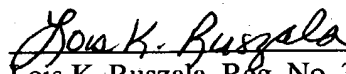
  
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Respectfully submitted,



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	APPLICANT BORONAT et al.	
	FILING DATE November 13, 2001	GROUP 1638

**"RELATED" U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	2002/0069426	06 June 02	Boronat et al.			
	A	2002/0108148	08 Aug 02	Boronat et al.			
	A	2003/0148300	07 Aug 03	Valentin et al.			
	A	2003/0150015	07 Aug 03	Norris et al.			
	A	2003/0154513	14 Aug 03	van Eenennaam et al.			
	A	2003/0166205	04 Sep 03	van Eenennaam et al.			
	A	2003/0170833	11 Sep 03	Lassner et al.			
	A	2003/0176675	18 Sep 03	Valentin et al.			
	A	2003/0213017	13 Nov 03	Valentin et al.			
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	A	5,429,939	04 Jul 95	Misawa et al.			
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	A	5,684,238	04 Nov 97	Ausich et al.			
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	A	5,750,865	12 Mar 98	Bird et al.			
	A	5,792,903	11 Aug 98	Hirschberg et al.			
	A	5,876,964	02 Mar 99	Croteau et al.			
	A	5,908,940	01 Jun 99	Lane et al.			
	A	6,281,017	28 Aug 01	Croteau et al.			
	A	6,541,259	01 Apr 03	Lassner et al.			

**FOREIGN PATENT DOCUMENTS**

Examiner	Date Considered
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	B	2,339,519	17 Feb 00	Canada			Eng Version of WO 00/08169
	B	2,343,919	30 Mar 00	Canada			Eng Version of WO 00/17233
	B	2,372,332	02 Nov 00	Canada			Eng Version of WO 00/65036
	B	1 033 405 A2	06 Sep 00	EPO			
	B	0 674 000 A2	27 Sep 95	EPO			
	B	0 531 639 A2 & A3	17 Mar 93	EPO			
	B	0 763 542 A2	19 Mar 97	EPO			
	B	1 063 297 A1	27 Dec 00	EPO			NO (DE)
	B	2 778 527		FR			YES
	B	DE 198 35 219 A1	05 Aug 98	German/English			YES=CA2339519
	B	560,529	07 Apr 44	Great Britain			
	B	WO 00/01650	13 Jan 00	PCT			
	B	WO 00/08169	17 Feb 00	PCT			YES=CA2339519
	B	WO 00/08187	17 Feb 00	PCT			
	B	WO 00/10380	02 Mar 00	PCT			
	B	WO 00/11165	02 Mar 00	PCT			
	B	WO 00/14207	16 Mar 00	PCT			
	B	WO 00/22150 A3	20 Apr 00	PCT			
	B	WO 00/28005	18 May 00	PCT			
	B	WO 00/32757 A2 & A3	08 Jun 00	PCT			
	B	WO 00/61771	19 Oct 00	PCT			
	B	WO 00/63389	26 Oct 00	PCT			
	B	WO 00/63391	26 Oct 00	PCT			
	B	WO 00/68393	16 Nov 00	PCT			
	B	WO 01/04330	18 Jan 01	PCT			
	B	WO 01/09341	08 Feb 01	PCT			
	B	WO 01/12827	22 Feb 01	PCT			

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	B	WO 01/21650	29 Mar 01	PCT			
	B	WO 01/44276	21 Jun 01	PCT			
	B	WO 01/62781	30 Aug 01	PCT			Partial
	B	WO 01/79472	25 Oct 01	PCT			
	B	WO 01/88169 A2 & A3	22 Nov 01	PCT			
	B	WO 02/00901 A1	03 Jan 02	PCT			YES
	B	WO 02/29022	11 Apr 02	PCT			
	B	WO 02/31173	18 Apr 02	PCT			YES
	B	WO 02/33060	25 Apr 02	PCT			
	B	WO 02/46441	13 Jun 02	PCT			
	B	WO 02/072848	19 Sep 02	PCT			
	B	WO 02/089561	14 Nov 02	PCT			
	B	WO 03/034812	01 May 03	PCT			
	B	WO 03/047547	12 Jun 03	PCT			
	B	WO 91/02059	21 Feb 91	PCT			
	B	WO 91/09128	27 Jun 91	PCT			
	B	WO 91/13078	05 Sep 91	PCT			
	B	WO 93/18158	16 Sep 93	PCT			
	B	WO 94/11516	26 May 94	PCT			
	B	WO 94/12014	09 Jun 94	PCT			
	B	WO 94/18337	18 Aug 94	PCT			
	B	WO 95/08914	06 Apr 95	PCT			
	B	WO 95/18220	06 Jul 95	PCT			Abstract
	B	WO 95/23863	08 Sep 95	PCT			
	B	WO 95/34668	21 Dec 95	PCT			
	B	WO 96/02650	01 Feb 96	PCT			
	B	WO 96/06172	29 Feb 96	PCT			
	B	WO 96/13149	09 May 96	PCT			
	B	WO 96/13159	09 May 96	PCT			

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	B	WO 96/36717 A2 & A3	21 Nov 96	PCT			
	B	WO 96/38567	05 Dec 96	PCT			US equivalent
	B	WO 97/17447	15 May 97	PCT			
	B	WO 97/27285	31 Jul 97	PCT			
	B	WO 97/49816	31 Dec 97	PCT			
	B	WO 98/04685	05 Feb 98	PCT			
	B	WO 98/06862	19 Feb 98	PCT			
	B	WO 98/18910	07 May 98	PCT			
	B	WO 99/04021	28 Jan 99	PCT			
	B	WO 99/04622	04 Feb 99	PCT			
	B	WO 99/06580	11 Feb 99	PCT			
	B	WO 99/07867	18 Feb 99	PCT			
	B	WO 99/19460	22 Apr 99	PCT			
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	MONS:039USC1; REN-01-020	09/987,025
	APPLICANT BORONAT et al.	
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	c	DUNCAN <i>et al.</i> , "The overexpression and complete amino acid sequence of <i>Escherichia coli</i> 3-dehydroquinase", <i>Biochem. J.</i> , 238:475-483 (1986)
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	c	TABATA <i>et al.</i> , Database EMBL, Accession No. Q55500 (Nov 1996)
	c	WALBOT, V., Database EMBL, Accession No. AI795655 (Jul 1999)
	c	WING <i>et al.</i> , Database EMBL, Accession No. AQ690643 (Jul 1999)

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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 2.32) PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary)	ATTY. DOCKET NO. MONS:039USC1; REN-01-020	SERIAL NO. 09/987,025
	APPLICANT BORONAT et al.	
	FILING DATE November 13, 2001	GROUP 1638

c	XIA <i>et al.</i> , Database EMBL, Accession No. M74133 (Jun 1993)
c	BEVAN <i>et al.</i> , Accession T4 8445
c	International Search Report, PCT/US00/10368, pp. 1-14 (June 15, 2001)
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